KANSAS DEPARTMENT OF AGRICULTURE

Plant Disease in Kansas

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Special points of interest:

- *Will wheat streak mosaic complex be a problem in fall planted wheat?*
- *Sudden Death Syndrome of soybean*

INVASIVE TREE DISEASES: Update on Activities Addressing Pine Wilt and 1000 Canker Disease of Walnut

During the past few weeks staff assessed pine wilt and the potential for a disease of walnut coined 1000 canker.

For pine wilt, staff evaluated the Great Bend/Bissell Point area and a new find made in Lucas in Russell County. Both areas are along the leading edge of pine wilt moving west. Staff found that several pines were recently killed from PWN in the Bissell Point and Barton Hills area north of Great Bend. These pines are in previously known areas. Delimiting survey indicated that currently pine wilt is localized only to this area in Barton County. Eradication efforts have been partially successful in keeping the infestation localized. Survey activity in western Kansas indicate that a large portion of western Kansas remains unaffected. Interested parties may view the current map of pine wilt in central and western Kansas by going to "**Google Maps**" and typing in "Pine Wilt 2009 in Kansas".

With 1000 canker disease of walnut; staff surveyed cities and wooded areas in central and western Kansas for the presence of walnut and the potentially threatening disease. 1000 canker disease is a recently described disease in western states that kills walnut trees in a short time of a few years. See http://www.ext.colostate.edu/pubs/insect/0812_alert.pdf.

This canker has many concerned because of potential impact in Kansas and surrounding states to native and planted stands and to the urban landscape. Walnut is a valuable tree because the nuts are a food to wildlife and consumed by humans. The wood is highly prized for various wood products in the US and abroad. Staff mapped sites in various urban areas in extreme western Kansas and along western edge of the range of native stands in central/western Kansas. No disease was noted although some sampling did occur. The purpose of the survey was two fold. The first is to document that the disease is not present in the state and the second is to provide walnut locations for survey sites for future monitoring. The closest known locations of 1000 canker are along the Front Range of Colorado. The disease is transmitted by a bark beetle. The concern is the bark beetle may step its way into Kansas native walnuts by way of "urban" non native trees of eastern Colorado and western Kansas communities. For information on a upcoming symposium go to http://mda.mo.gov/plants/pests/thousandcankers.php .

Volunteer wheat widespread across central and western Kansas

Volunteer wheat poses a problem to growers this fall. With frequent and ample rain in many of areas of Kansas, volunteer wheat is widespread and well established in many stubble fields in central and western Kansas. This "crop" of wheat poses a significant threat as a bridge for early disease development to nearby planted wheat. The wheat streak mosaic complex is the primary disease of concern but other diseases including speckled leaf blotch and leaf rust can use these fields as a foothold in an area. In these weedy fields, the wheat curl mite can establish itself from nearby wild grasses and maturing corn. The mites transmit several viruses that are detrimental to wheat. If weather conditions turn dry and warm, wheat curl populations will increase and disperse from the volunteer fields into nearby planted fields. Growers should assess their potential problems by visiting fields and controlling volunteer two weeks prior to planting of susceptible and intermediate resistant cultivars.

PLANT PROTECTION AND WEED CONTROL PROGRAM
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INVASIVE SPECIES

Plant Protection and Weed Control Program

Plant Protection and Weed Control staff work to ensure the health of the state's native and cultivated plants by excluding or controlling destructive pests, diseases and weeds. Staff examine and analyze pest conditions in crop fields, rangelands, greenhouses and nurseries. Action taken to control potential infestations of new pests, whether they are insects, plants diseases or weeds, is beneficial to the economy and the environment.

Our Mission is to:

- Exclude or control harmful insects, plant diseases, and weeds;
- Ensure Kansas plants and plant products entering commerce are free from quarantine pests;
- Provide customers with inspection and certification services.

The Plant Disease Survey in Kansas has been conducted since 1976. The survey addresses disease situations in field crops, native ecosystems, and horticultural trade. The Kansas Department of Agriculture works cooperatively with Kansas State University and Extension programs, United States Department of Agriculture, and various commodity groups.

Row crop disease update

Summer row crops are nearing maturity. Corn is being harvested in some areas and soybeans are soon to follow. Over the past few weeks, soybean fields in central/south central fields took a sizable punch from a disease called Sudden Death Syndrome (Kansas was not alone, much of the Midwest has been affected). SDS started early this summer and continued to progress due in part to the cooler wetter weather that the state experienced in August. It was not uncommon three weeks ago in some parts of McPherson, Reno, and Harvey counties that 30 to 60 per cent of individual fields were infected. The disease was also noted in fields along the Kansas River in Douglas and Shawnee counties and in Butler (SE) and Stafford (SC). Other diseases reported were bean pod mottle virus, bacterial blight, downy mildew, and brown spot. Asian soybean rust and bean bacterial wilt were not observed.

In sorghum, sooty stripe and bacterial stripe were epidemic in specific locations of experimental breeder plots near Manhattan. In commercial fields, sooty stripe was observed at much lower levels in south central Kansas. Other disease in sorghum breeding plots were downy mildew, head smut, leaf blight, and rust.

In spite of the disease pressure, Kansas should enjoy a bumper row crop harvest because of the frequent and widespread rains of late summer.

Figure. 1. Early inter-veinal necrosis of sudden death syndrome in soybean. The leaf necrosis expands to encompass the entire canopy/plant if favorable conditions exist. Infected fields appeared "burnt" from a distance in late August in Kansas.